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(54) Title: A METHOD OF RECYCLING AN EXHAUSTED SELENIUM FILTER MASS

(57) Abstract: A process for reclaiming spent selenium filter mass containing an inert material, following take-up of mercury by a substance which contains selenium and is present in the filter mass. The spent mass is treated with a hydrogen peroxide solution for leaching out of the selenium content in essentially all unspent active substance present in the mass to form selenious acid. The resulting selenious acid is separated and isolated for use. The mass freed of the solution is treated with aqua regia for dissolving essentially all of the mercury selenide present in the mass. The aqua regia solution with its content of mercury and selenium are separated from the mass and isolated. Suitably, after it has been washed and dried, the mass freed of the aqua regia solution, which now only contains inert carrier material, and also the previously isolated selenious acid, are transferred to production of new selenium filter mass. After partial neutralisation of the solution, mercury is precipitated in a form that allows it to be deposited. Before that, selenium can be selectively separated and obtained from the aqua regia solution after its pH value has been adjusted, and isolated as elemental selenium useful for the production of new filter mass. Reclaimed selenium content and inert carrier material contained in the filter can advantageously be used for the production of new selenium filters.

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